A Glance at Washington's Contacts to Tuberculosis Cases

Washington State Department of Health
Office of Infectious Disease and Reproductive Health
http://www.doh.wa.gov/cfh/TB/default.htm
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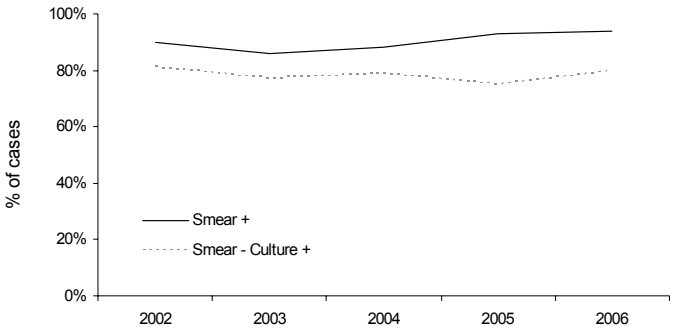
Background

Statewide, annual numbers and rates of newly reported TB cases have risen slightly in recent years. As such, greater emphasis has been put on successfully treating infected contacts to infectious cases because without adequate preventive therapy, TB infection can lead to TB disease. About 10% of people infected with tuberculosis develop disease at some point later in their lives; half of these people develop the disease within two years. The remainder of infected people remain latently infected without developing active disease. The extended latent period between acquisition of infection and development of active disease (LTBI) provides an opportunity to prevent disease from developing. Quickly identifying, evaluating and successfully treating contacts will help to reduce future transmission of TB disease in Washington.

1. Identification

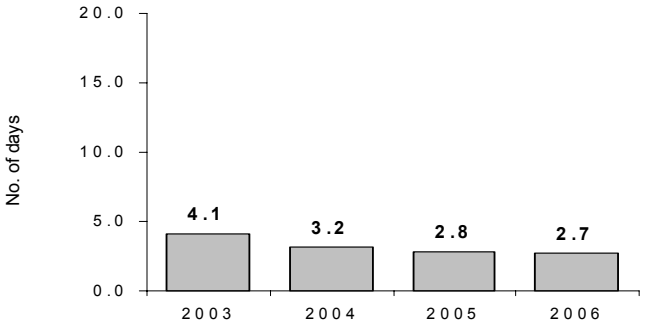
In 2005, the Centers for Disease Control and Prevention (CDC) published guidelines for the investigation of contacts and recommended that cases with positive acid-fast bacillus (AFB) sputum smear results or pulmonary cavities be given the highest priority because these are considered markers of infectiousness. The first step in decreasing future transmission is the identification of contacts to these types of cases. Figure 1 shows that from 2002-2006 most of Washington's smear positive cases identified at least one contact.

Figure 1. Infectious TB Cases
Percentage that Identified Contacts
Washington, 2002-2006



Quickly identifying contacts to infectious cases is critical because risk of transmission to disease is greater in the first year after exposure. Timeliness measures collected from WA Cohort Review show the trend in the timeliness of identifying contacts. Figure 2 shows a continued improvement in the identification of contacts to infectious cases since initiating WA Cohort Review in 2003.

Figure 2. Infectious TB Cases
Average Number of Days to Identify Contacts
Washington, 2003-2006

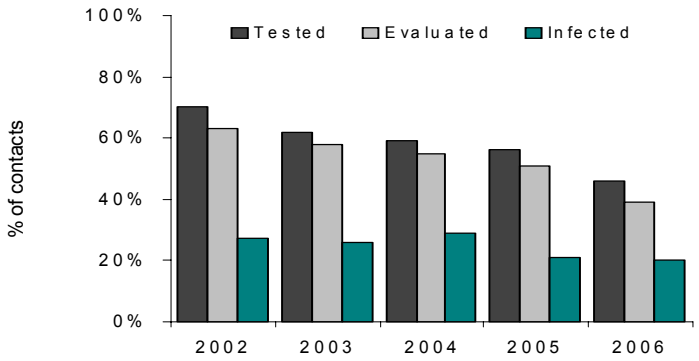


2. Evaluation

Once contacts are identified, they are then evaluated for TB disease. Evaluation includes skin testing each contact wtihin 8 weeks of exposure and if positive, following up with a chest x-ray. Evaluation can be costly and cumbersome but if done efficiently can effectively curb future transmission of TB disease. In Washington, the proportion of contacts that were tested and then fully evaluated decreased from 2002-2006 (Figure 3). During this same time period, the number of contacts identified (and therefore the number that needed to be screened) doubled and ranged from 860 to 1,987 contacts. Given that the proportion of infected contacts did not change substantially over this period and hovered around 20%, expanding the contact investigations even further might have yielded more infected contacts. CDC recommends expanding the investigation until the rate of positive skin test results is indistinguishable from the prevalence of positive results in the general population (approx. 10%).

Figure 3 highlights the challenge of public health in addressing the need for increased staff resources to conduct contact evaluations as federal funding for TB control continues to decline.

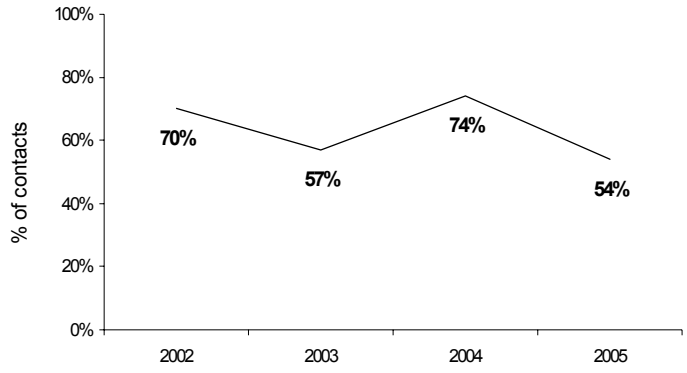
Figure 3. Identified Contacts Percentage Tested, Evaluated, and Infected Washington, 2002-2006



3. Treatment Completion

Once infected contacts are identified through proper evaluation, following through with completion of adequate therapy is imperative. Successfully completing therapy not only helps to curb the spread of disease transmission but also decreases future resistance to TB medication. One of the 2010 national health objectives is to achieve a treatment completion rate of 85% for infected contacts who start treatment. Figure 4 shows that Washington has yet to achieve this objective.

Figure 4. Infected Contacts Percentage Completed TB Therapy Washington, 2002-2005



Discussion

Because of proportional increases of TB among foreign-born people from places where TB is endemic and without the advancement of new medications and testing technologies, it is critical that Washington focus on the maintenance of control and prevention of new transmissions and outbreaks by quickly identifying, evaluating and successfully treating infected contacts. Data from this report highlight areas where Washington has achieved success and areas that have proved challenging. Although Washington has effectively identifed contacts to most infectious cases in a timely manner, a greater emphasis must be placed on fully evaluating them for TB disease and ensuring an adequate course of treatment since recent infectivity is considered a marker of future TB disease. Unless infected contacts are given higher priority in tuberculosis control, not only in identification but also in successful treatment completion, TB case rates will continue to rise.

For more information...

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